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ABSTRACT

In the New York City high schools, three change strategies have been used to improve a system which, in and by itself, is dramatically changing. The high school system has undergone significant changes in purpose, organization, culture and student performance. The first change strategy established a partnership between the high schools and the Economic Development Council, a non-profit organization which brings resources of the business community to the assistance of the public sector. The second strategy was the Data-Based Management by Objectives System which emphasized planning and accountability. The third strategy involved identifying a major school issue (dropouts) and forcing attention toward the issue in order to create a demand for change. Each major change strategy had significant strengths and limitations; each provides important insights for other school systems struggling with the process of planned change. The New York Experience demonstrates the need to develop change models that are interactive and responsive to continuing change in highly open systems. (MJL)

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THREE MAJOR STRATEGIES FOR LARGE SCHOOL SYSTEM CHANGE

THE NEW YORK CITY HIGH SCHOOLS' EXPERIENCE

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General Foods

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THREE MAJOR STRATEGIES FOR LARGE SCHOOL SYSTEM CHANGE: THE NEW YORK CITY HIGH SCHOOLS' EXPERIENCE

PURPOSE OF THIS PAPER

How does one systematically change/improve a system which itself is dramatically changing? The purpose of this paper is to address this issue particularly as it applies to large urban school systems. While no solutions will be offered, this paper hopes to expose and discuss this as a crucial problem in designing models for planned school system improvement. It will use the experience of the New York City High School System over the past few years as it has struggled with the process of planned change as a point of departure.

Over the last few years, the New York City High School System has undergone significant changes in mission, organization, role, culture and student performance. Three major and contrasting strategies for systematic school system change have been used in this effort, each representing a different model of change. This experience provides an opportunity for examining the process of planned change in a major, changing system. It is the belief of the author that if change efforts in school systems are to be successful, the problems of intervening in a constantly shifting system need to be more fully recognized and understood. In addition to comparing the strengths and limitations of the change strategies used, it is hoped that this paper will provoke some thought and discussion around this issue.

THE INITIAL STRATEGY - SCHOOL SELF RENEWAL (ORGANIZATION DEVELOPMENT)

The initial strategy for systematic school improvement in the New York City High Schools, to be examined here, began in 1969 as an experiment. It established a partnership between the Economic Development Counsel Inc., a non profit organization formed to bring the resources of the business community to assist the public sector, and the High School Division. Begun in two inner city high schools as the Partnership Program, by 1974 it had developed into the High School Self Renewal Program and expanded to eight high schools in September of 1975. The expansion to more schools continued each year so that by the spring of 1976 thirty high schools, almost one-third of the New York City High Schools, were actively involved in the process.[1] School Self Renewal was a carefully designed seven stage organization development change process enabling each school to increase its ability to respond more effectively to the many demands of its environment through broad-scale participation and systematic problem solving by members of that school community.

THE CONDITION OF THE SYSTEM

During the development and initial years of School Renewal (1969-1977) the High School Division was a relatively stable, maintenance oriented system. This did not mean that there was not a concern for systematic school improvement, for indeed there was. Nevertheless, the leaders of the division, were all veterans of the high school system, and were satisfied with a slow, evolutionary approach to improvement.

Budget for high schools was fairly stable and adequate. The Economic Development Counsel, a powerful group of the major business corporations in New York City, had a close relationship with the Board of Education, and both shared a concern for the quality of skills possessed by the New York City High School graduates. There was certainly a concern by both the Board of Education and the business community for the serious problems in the city's urban schools, but there was a relative lack of urgency about its solution on the part of the Board of Education. At the same time, both the Board of Education and the Economic Development Counsel agreed with a report from the National Institute of Education that schools needed to develop the own capacities to engage in an active search for solutions to their own problems. The Self Renewal approach, which did just this, seemed like an ideal strategy for improving the New York City High Schools. The School Self Renewal Program began voluntarily in those schools which had the greatest needs.

UNDERLYING ASSUMPTIONS (THEORETICAL FRAMEWORK)

School Self Renewal was organization development applied to high schools, with each school viewed as a client system. As defined by Fuller, Miles, and Tayler, organization development in school districts is a coherent, systematically planned, sustained effort at system self-study and improvement, focusing explicitly on change in formal and informal procedures, processes, norms or structures, using behavioral sciences concepts. The goals of OD include improving both the quality of life of individuals as well as organizational functioning and performance with a direct or indirect focus on educational issues.[3] School Self Renewal fit this definition exactly, in fact, it helped formulate it and was the largest organization development effort ever undertaken in schools.

The Self Renewal Process was based on the following assumptions which have been often used to guide OD practice (particularly in schools):[4]

- Top Level Support - Top level management, especially the Principal, must actively support the process, since Renewal requires collaboration throughout the school hierarchy for planned change. This collaboration is most effectively initiated by top level administration.

- School Capacity for Self-Helf Problem Solving - The capacity to improve a school resides within the resources of the school itself. While persons in high schools have a strong desire to improve educational programs, they often do not have the opportunities to use their talents and capacities productively in the school system.

  Those within the school who know its strengths and weaknesses are best qualified to solve problems by tapping talents within the school including their own.

- An Initiating Event - To create a climate that encourages innovation, a special experience such as a broad-based planning effort is needed, both as a kind of optimistic interruption of the normal routine of handling school problems and as a means of generating hope for improvement and commitment to change.

- The Consultant Resource - An organization development consultant is a necessary resource initially to help the school desing, implement and institutionalize its unioue adaptation of the Renewal Process.

- Widespread Participation - All elements of a school and its community should participate in identifying problems and selecting options for their solutions.

- Challenge, Diversity and Conflict - Widespread participation leads to constructive conflict regarding the identification and resolution of problems.

- Institutional Arrangements - Some individual has to be specifically assigned to lead and coordinate the Renewal effort (internal coordinator). Likewise, planning time must be specifically allocated for the Renewal Process if members of the school community are to be free to participate.

- A Systematic Process - Schools cannot be improved through random attempts at change or by uneven or piecemeal efforts. The systematic process involves designating participants, scheduling meetings, surveying problems, identifying alternative solutions, selecting one or more of these, allocating adequate resources, conducting periodic progress reviews, and collecting evidence for evaluations (The Renewal Process).

- Setting Priorities - Not all problems can be attacked simultaneously, and not all solved immediately. Deciding which to attack first and which later is an essential element in the Renewal Process.

- Knowing the School - While schools have similar basic processes and structures, each is a unique system. Thus each Renewal decision must be made by individuals who are fully informed about the entire range of concerns in the school.

- Designing the Process to Fit the School - The Renewal Process must be uniquely designed for each individual school.

- Using Existing Resources - By giving school members the time and opportunity to redirect their own energies much can be done to improve schools within existing budgets and resources.

- Achieving Success - To flourish, a Self-Renewal program must show some signs of success during the process.

- Flexibility and Change - Since schools and their environment are constantly changing, the ongoing Self-Renewal Process must be flexible enough to allow continuous adaptation and improvement.

THE INTERVENTION

School Self Renewal developed a comprehensive seven stage problem solving process as its basic model. The seven steps, Entry, Diagnosis, Planning, Research and Development, Implementation, Evaluation, and Institutionalization, were seen as sequential and were thus similar to other OD models. As in most OD models, the entire sequence was a cyclical, repetitive process.

With such a carefully designed sequence of steps, it was hoped that the Renewal Process could be taught and transferred to those in the schools over time. Each school had the resources of an external OD consultant, skilled in the use of the model. These external consultants worked closely with the principals and their carefully chosen internal renewal coordinators (usually a teacher) to initiate the process in the schools. The internal coordinators, released from all or a part of their teaching responsibilities, coordinated the Renewal activities within the school, and received intensive training in the Renewal methodology. In addition, each school was provided with a modest research and development budget (initially $10,000 per year) and released time funds to allow teachers time for meetings. The goal of Renewal was to institutionalize the process in each school as an ongoing activity over a three year period. During that time the external consultants gradually decreased their involvement, transfering more and more of the responsibility to the coordinators and other members of the school.

The Renewal model viewed the school as consisting of many subsystems, and was often used similtaneously as a problem solving process in several (such as a cabinet, a department, the school as a whole, or with a group of students). Management development activities, both on and off site, in the areas of Renewal and general management skills, were an important component of the program. Likewise, on site, one-on-one consulting by the external consultant to key members of the school (particularly Principals) was often an integral part of the Renewal effort.[5] Finally, since schools, like other organizations, are highly political systems, working in a political climate was an explicit component of the training of both the external consultants and the internal coordinators.[6]

To ensure that the model would continue to be useful to the schools as conditions changed, a special policy making group for the program, the Model Team, was created. Consisting of representatives from all components of the program, the model team met monthly over the years to continually modify and improve the Renewal model. Finally, to build in the involvement of the business community at the school level, most schools had the services of a corporate representative from a major corporation as an ongoing resource. Funding for the Renewal Program was jointly shared by the Board of Education and the Economic Development Counsel, with the Board of Education assuming more and more of the responsibility each year. Thus Renewal was a carefully designed, major intervention for the schools, with the clear goal of institutionalization, and with significant resources and political backing.

THE RESULTS

The Renewal process produced numerous new policies, procedures and programs in the Renewal Schools. Some short range results such as the improvement of cafeteria environments and decorum, new student record forms to reduce paperwork, improved orientations for incoming students, and improved security policies and procedures appeared in virtually all the Renewal Schools. In addition, several of the schools implemented more substantive long range projects such as departmental reorganizations, the development of new curriculums and resource centers, schools-within-schools or learning communities, automated attendance/cutting information systems, and new career education programs. In all, well over a hundred improvements resulted from the use of the Renewal process, and many, modified for each school, were transferred to other schools as model programs/curricula. Indeed, in a number of schools, Renewal was being implemented simultaneously on a number of levels, each generating results.

However, a more important question had to be addressed. How much impact were these results having on the students, on the bottom line results of the schools, such as reading and math levels, attendance and dropout rates? In this respect Renewal was less successful. A 1978 evaluation report of Renewal in the thirty schools confirmed what the external consultants were experiencing. Renewal was having significant impact in approximately one-third of the schools. In another third progress was being made, but slowly, with almost all the effort directed on keeping the process going. In the final third of the schools, despite efforts to initiate Renewal on any level, it was just not taking hold.[7]

There were numerous reasons for this succes/failure rate. Centainly, Renewal was vulnerable at many points. Without adequate support from a principal, in a school with serious union opposition, or without the support of the middle managers, maintaining Renewal was extremely difficult. A number of components had to be brought together to enable Renewal to really take off. The Renewal consultants were quite skilled in making these connections and had successfully overcome resistance in many schools. Yet it seemed that the newly admitted schools were having a much harder time with Renewal. In fact, there was a simple and rather overwhelming explanation for this problem. The school system, in the later years of Renewal was no longer the same. The culture of the system had changed drastically, and the institutional components which had supported Renewal were erroding. Renewal was no longer compatible with the culture of the schools.

In the mid 1970's, the New York City School System underwent a series of drastic budget cuts. Thousands of teachers were laid off, class size rose sharply, supply budgets were slashed, and extra curricular activities were curtailed. Schools often sustained losses of nearly one-fifth of their staffs. Among the first to go were the many younger teachers who had characteristically been the most active in Renewal. While the Renewal Program survived with some cutbacks in funding, the schools in which it had been operating (or trying to enter) were no longer the same.

There were now logistical problems which made Renewal more difficult. The internal coordinators, who once were released from teaching full time to devote to Renewal, now had only one or two periods free. Paid teacher time for meetings was seriously cut back. Research and development funds were less. While these hindered progress, they were not the primary obstacle.

The primary obstacle was a change in the culture of the schools. At the heart of Renewal, and in all its working assumptions, was the concept of volunteerism. Those in the school knew and cared about it enough to devote time and energy for its improvement. With the budget cuts, morale plummeted to an all time low. It was no longer the case that many teachers were willing to devote extra time and energy to their schools. The system had hurt themselves and their friends. "They would be darned if they would lift an extra finger to help this system." While this was certainly not the attitude of all staff, it was the attitude of many. In the early years of Renewal it was not unusual to get fifty to sixty staff after school for a problem solving meeting. Now it was a struggle to get eight staff members to form a core group doing school released time. The schools no longer supported volunteerism. Those who were willing to devote extra time and energy to problem solving became fewer and fewer in most schools. Renewal, instead of generating an expanding cycle of contagious successes, began to come to a grinding halt.

If the nature of the school system was changing, why not make adjustments in the Renewal strategy for a better fit? That seemed logical at first glance and is precisely what the Model Team attempted to do. Minor adjustments were made in the Renewal strategy over the years to better cope with the new conditions of the system. A strong network was set up among the Renewal coordinators to give them more support and training. Renewal committees were taken on weekend retreats to restore energy and commitment. More work was done directly with students since their morale didn't seem to be as adversely effected as that of their teachers. The problem of teacher morale was addressed as a Renewal problem. These and other adjustments enabled the Renewal program to continue during the years of the budget cuts. Nevertheless, these minor adjustments could not address the basic contradiction between the fundamental premise of Renewal, volunteerism, and a non-supportive school culture.

A number of those directing Renewal began to seriously question whether adjustments in the strategy was enough. Perhaps, since the system was changing, a totally new strategy was needed if school change and improvement were still the targeted outcomes.

SUMMARY OF RENEWAL STRATEGY, STRENGTHS AND LIMITATIONS

STRENGTHS

- Renewal is a viable strategy (or model) for change in school systems. For some schools, (organizations) its basic operating assumptions are sound. In such systems, the Renewal process can actively engage members of the school community in addressing perceived problems. Significant results which directly impact the learning outcome of students may result. In addition to affecting learning outcomes, in such systems, the quality of organizational life in general can be improved.

- Renewal is a long term, incremental, evolutionary approach to change, ideal for a basically solid or stable school (system).

- Renewal is a transferable process which can be learned and institutionalized by members of the school community. It can be used simultaneously on many levels within the school and among diverse groups (such as students and administrators). It can be used to address a very wide range of problems.

- Renewal can provide an avenue for traditional adversaries such as union and management to work collaboratively on school improvement. Constructive conflict is an integral part of the Renewal process.

- Renewal is a flexible process and as such can be modified for different school situations.

- The minimum requirements to initiate Renewal are modest; support from the top line administrator, a core group of people willing to devote time and energy, and a person skilled in problem solving methodology. As such, Renewal can be successful at a moderately low cost.

- Renewal can be used as an intervention in the classroom, which is itself a social system. Increased involvement of students in solving those problems interfering with their own learning can lead to increased learning.

- The value system behind Renewal, involvement, participation, and assuming responsibility for ones' own growth and development, is very compatable with our democratic tradition and is an excellent means for involving people in the democratic process.

LIMITATIONS

- Renewal is a voluntary change strategy, which thereby limits its applicability. There is some truth in the cliche that those who perhaps need it the most, are the most insecure and least likely to opt for it. Moreover, as a voluntary strategy, the members of the schools determine which problems to work on. Their choices may be merely symptoms of the underlying problems. In a similar vein, it is highly likely that those who have internalized many of the norms and expectations of a troubled school system, may have a fairly limited or modest view of possible improvements. Rarely, for example, did the Renewal schools choose to significantly reduce dropouts or improve attendance. Many people had virtually given up in these areas. Thus,

in most cases, Renewal is an incremental, evolutionary change strategy, not very well suited for quick or radical changes in schools. For schools that are severly troubled, where expectations have already been battered, Renewal is perhaps an inappropriate change strategy.

- As a voluntary change strategy, Renewal is highly vulnerable to problems in implementation. In many cases, the same weak operating systems generally in use in schools are used to implement Renewal decisions. The result is often poorly implemented actions and a set-back for Renewal. Renewal can fall apart at many other points since it is so dependent upon the cooporation and support of key actors. Thus an unsupportive principal, a hostile union, a poor coordinator, a poor consultant, or a non-supportive cabinet, can all seriously hamper, if not kill Renewal.

- While the basic requirements to initiate Renewal may be modest, a number of highly troubled schools don't possess them.

- Renewal requires the sharing of power and decision making. Many insecure, or authoritative principals find this requirement incompatable with their leadership styles.

- The larger and more complex the school, the more difficult the logistical problems facing Renewal. While these may sound minor, they are not, and can seriously hamper the participation of needed people.

- Renewal is dependent upon a number of factors in a school for there to be a state of sufficient readiness. Due to pressures and influences beyond the immediate control of Renewal, these factors may shift, causing any progress to come to a halt. Such an experience, not all that uncommon for such open systems as schools, can further disillusion that often small group of people in a school, involved in the Renewal effort, that care enough to try. It is thus not true that a school has nothing to lose by trying Renewal.

Because of these limitations, Renewal is best suited as a change strategy for smaller, more stable, less troubled systems, such as elementary schools. As the systems became larger, more complex, more troubled, less stabel, and consequently require radical changes faster, voluntary Renewal is probably not the most appropriate change strategy.

THE SECOND STRATEGY - DATA-BASED MANAGEMENT BY OBJECTIVES

CONDITION OF THE SYSTEM

In the summer of 1978, the High School Division changed once again, with the appointment of a new Executive Director, Nathan Quinones. This appointment was part of the new chancellor's initial efforts to substantially improve the New York City Public Schools. The Chancellor's administration began with his refusal to grant tenure to a number of high school principals (unheard of behavior), the appointment of virtually all new executive directors (his top level line administrators), and the removal of a number of high school superintendents.

Quinone's appointment was a shock to many. Not only was he the first Puerto Rican to reach such a position, but he had only served as the principal of a New York City High School for a year (and a small, newly developed high school at that.) While he had served the New York City School system in a variety of positions for the past twenty years, he was clearly not a member of the powerful "High School Principals Old Boy Network" which had controlled the division for as long as anyone could remember. These initial actions by the Chancellor were symbolic of the sweeping changes that he was demanding.

This new turn of events, coupled with the frustrations cited above that Renewal was experiencing, clinched the decision by the directors of Renewal to move in a new direction. The system had changed again. With new leaderships obviously interested in rapid, substantial change, the system was no longer the same. Now, not only were the internal components missing to support Renewal, its very outputs were questionable. The change in top leadership clearly marked a lower tolerance for slow, evolutionary, incremental, and voluntary change.

While Mr. Quinones did continue to support Renewal, both ideologically and financially, he was very open to a more far-reaching, involuntary, strategy for change. His school had been one of the newer ones to join Renewal. As such he had attended a workshop on management skills given by the director of Renewal (the author). When he became the Executive Director, he invited this individual to serve as a management consultant to the division. This coincided with the shift perceived as necessary for Renewal. After spending some time with Mr. Quinones at the Division, and sensing his willingness to place demands upon the system for change, a the consultant recommended a major new strategy for school improvement, the establishment of a Data-Based Management By Objectives System.

UNDERLYING ASSUMPTIONS (THEORETICAL FRAMEWORK)

The primary impetus for initiating data-based management by objectives as a change strategy for the High School Division was the opportunity for major, radical, top driven change which the new administration represented. The need for major improvements in the high schools had been obiviously apparent for years. The media was constantly attacking the high schools, and it was no secret that bottom line learning results had reached an all time low. However, under the former leadership (of a number of previous administrations), the basic problem was seen as a change over the last twenty years in the nature of the student body. "The schools had worked well for middle class white students for years. The New York City High Schools were a national model. It was something about these minority, lower class children, who were now filling the schools, that was causing the obvious problems." While this was never said too explicitly, it was deeply inbread within the culture of the division.

The new administration would have none of this. All children could learn and it was the duty of the schools to provide the appropriate learning environment.

Indeed evidence of excellent schools was widespread in all the areas of New York City and these exceptions had to become the norm. Instead of holding on in a maintenance posture, the new message was to move forward, quickly. This was not a voluntary message. There was to be no choice. Accountability was the theme established early in the realm of the new Chancellor. With this change in top leadership philosophy, mission and goals, the system was vaulted into a new position of readiness for change.

The underlying assumptions for improving the high schools were quite simple and basic. First, improvement was a requirement for all schools. Secondly, an essential starting point for this was a careful plan by each school. Finally, plans meant nothing without implementation, and implementation would not occur in a system characterized by a great deal of frustration, helplessness, and lowered expectations, without accountability. Even a cursory look by the consultant at the High School Division in 1978 found that it suffered from the absence of many of the basic management procedures. Among those components seen as lacking were:[8]

- an explicit and clearly defined line of authority with an accompanying operating system.
- a data-based planning system.
- a feedback and management development system for professional growth and development.
- a system for school evaluation using base line longitudinal data.
- an accountability system incorporating the above.

This resulted in a general loss of effectiveness, incremental rather than performance based planning, overlap and duplication, and a general mode of reactive management. Under such conditions it was extremely difficult for the schools to function at their maximum capacity to meet the needs of students, or for the division to be responsive to the needs of the schools.[9] Given this need, and the new climate for change, the consultant recommended to the Executive Director of the High Schools that he establish a single, consistent, bottom-up, data based, management, planning, feedback and accountability system for all components of the High School Division.

This recommendation was accepted, and 1978 was easblished as the development and training year for such a system. The system was to have the following features:[10]

- Single, Consistent System - There would be one system developed to be utilized by all units on the division which would gear all activity directly to most effectively meeting the needs of the students. This could curtail wasteful duplication and integrate all activities in the division around the single mission of the division. (Mission-to provide the leadership for principals to design and implement school programs that enable all high school students to achieve their highest personal, academic, social and vocational potentials as learners and citizens.)

- Bottom-up System - The system would be developed and utilized bottom-up rather than top down with maximum involvement of those in the field. This would insure both commitment by those in the schools to the system, and usefulness of the system to those in the schools, rather than compliance by those in the schools to a system imposed from above. Such a bottom-up approach could be developed without those in superodinate positions sacrificing either control or input.

- Data-based - The system would be predicated upon the use of both the hard and soft data easily accessible at the school level. All components of the general management system would stem from needs assessments utilizing data. This could provide schools with longitudinal profiles of their performance, making more effective planning and evaluation possible.

- Usefulness to the School - An overriding goal in the development and utilization of this management system would be usefulness to the schools. This would be assured by involving field people in its construction to be certain that this criteria was met. Much of the data which would be asked for could be provided by the High School Division for the school, from data already available in order to minimize duplication. It was understood that for the system to be useful to the schools it had to operate without placing large paper work demands on those within the schools.

- Overall Management System - Using this approach, a single, consistent, overall management system would be utilized by all components of the High School Division, relating directly to the mission of the division. This system would be continuously modified for improvement since it would be longitudinally data based. Such a system could be developed, piloted, modified and ready for implementation by September 1979. This system could be phased into the ongoing operations of the division without any major disruptions with enough lead time for both on and off site training.

THE INTERVENTION

Having been accepted conceptually by the Executive Director of the High School Division, the introduction of the MBO system began at a superintendent retreat early in the fall of 1978. (There are five superintendents, each of whom have approximately 25 schools reporting to them). At the retreat, a mission statement for the High School Division was formulated. The role of the superintendents was defined vis-a-vis this mission, and the need for the management by objectives system was discussed.

While many of the superintendents had serious reservations about either the usefullness of such a system, or foresaw implementation problems, a decision to proceed was made. Over the next six months, the MBO system was a regular item on every weekly superintendents meeting. This time was used to help design the system (the data based school profile), and for training in the writing and use of behavioral objectives. Simultaneously, each superintendent was responsible for the orientation and training of his principals in the use of the system. To provide assistance for this undertaking, the external renewal consultants changed their roles. Each was assigned to a specific superintendent as his/her primary MBO resource person. As such, each worked with that superintendent's principals both in groups and individually, on and off site, in helping to prepare them for using the system. (This role of the former renewal consultants as MBO resource people for the superintendents continues at present).

By the spring term of 1978 each principal had to submit his/her first set of school goals for the term. This was seen as a practice run, part of the overall training program. By the end of that first school year, the first school profile were prepared and sent out to the schools. These were used as the data base for the schools first real submission of goals and objectives early in the fall of 1979 for that school year.

The overall plan for the management by objectives system was to proceed down the levels of the school, over 3 years. It would begin with the principals, proceed to the middle managers, the assistant principals, and finally extend to the teachers, a year at a time. This plan was in fact carried out, so that by 1981, not only were principals setting behavioral objectives for their schools, but assistant principals were doing likewise for their departments, and teachers for their classes. Throughout this three year progression, superintendents, as well as the Executive Director of the High School Division, submitted data-based goals and objectives for their areas of responsibility. Each year the school profile was slightly modified and added another year of longitudinal data. Throughout this three year process, the responsibility for implementation of the management by objectives system remained a major responsibility of the superintendents.

The MBO consultants (former external renewal consultants) were assigned directly to the superintendents offices as a resource for the system by the second year. While this arrangement presented several problems, it did serve to continue to focus time, energy, attention and training on the MBO system at the superintendents' offices and at the schools. As the system progressed, these consultants played a key role in suggesting and making modifications to improve the system. Most of these centered around: achieving a better integration of division-wide, borough-wide and school-wide goals, improving the school profile, streamlining the process to maximize time utilization, insuring that the all important face to face discussions about goals and objectives between key parties was built into the system, and continuing to help the schools use data in the process. These consultants met on a regular basis directly and alone with the Executive Director of the High School Division to provide feedback on the system and offer (and often implement) recommendations for its continued improvement.

During its second year (School year 1979) the system received a fortuitous boost from the State Department of Education. At that time the state started to devote a great deal of attention to the recertification of high schools. A major requirement in the process was the need for schools to have clearly defined and written goals and objectives. Thus, not only was the MBO system being required by the division, it was now also essential for school recertification.

Serious resistance to this system developed at two points during its history. The first, and lesser, was during its initial year by the High School Principals Association. They went so far as to write a "White Paper" characterizing MBO as a questionable management tool clearly unsuited for schools. When asked by the Executive Director to offer a counter suggestion for a planning and accountability system, there was no response. This resistance was interpreted as relatively mild by the Executive Director and superintendents. It indicated a number of problems in implementation rather than an overt or serious challenge to the theme of accountability.

A more serious threat to the system occured during the third year when teachers were required to write lesson plans on behavioral terms. This extension of the system to the teacher level was predicated on data from superintendents' visits to schools which indicated that a large number of teachers were conducting classes without sufficient preparation. The requirement for a written and available lesson plan became a fairly heated issue. There were many meetings with the union and a number of threatened strikes. During these periods of resistence, and particularly in the latter, the Executive Director of the High Schools held firm. He met and discussed the issues raised on numerous occasions with representatives, and made concessions on points that he felt were valid. Yet, despite considerable pressure, he continued to support and implement the system. Indeed, it was a tribute to his integrity and ability to work closely with traditionally hostile groups that prevented an all out confrontation.

Now in its fourth year, the data-based management by objectives system is a standard part of high school operations. Writing objectives and plans for improvement has even been incorporated into the new examination and selection procedures for high school principals.

RESULTS

The MBO system has had a substantial impact on the high school division. Since the system is such an integral part of the division, it is difficult to isolate its impact on bottom-line performance results. It has served to focus attention more directly on student performance in the schools. While there have been gains in performance overall within the division, they cannot be attributed to a single factor such as the MBO system.

An area in which the system's impact is easier to gauge is in the use of data. Since the system uses a longitudinal data bank as the basis for generating goals and objectives as well as for evaluating performance results, the division is paying more and more attention to data. This is having a profound and often dramatic impact on the schools. With data becomming more and more visable, and with people becomming more comfortable with its use, key decisions are being made in a different way. The granting of tenure to principals is no longer an automatic gesture. School performance data is now carefully analyzed in making this decision. A number of principals whose school data demonstrate a continued lack of improvement have been denied tenure. This is new and rather startling behavior for the High School Division.

Furthermore, two high schools whose data showed continued failure have been recently closed. Again this is unheard of behavior for the High School Division. It is important to note that data is not only being used to punish, but also to more effectively allocate resources and develop new policies/ programs. Recent examples include:

- the allocation of substantial resources to high schools that have had a long history of failure but for which there is some evidence of the possibility of a turn-around.

- a total re-examination of the high school admissions procedures to enable more students to enter programs of their first choice.

- the development of additional vocational education programs for the high schools.

- the development of intensive dropout prevention and retrieval programs.

It would be a gross overstatement to attribute all of these activities to the MBO system. Nevertheless, the visibility of data about these types of issues and problems has played a key role in generating action in the areas cited above.

Finally, the MBO system has had an impact on the culture of the high schools. Maintenance is no longer satisfactory. Projecting poor performance results onto the student population is no longer acceptable. Planning, change and improvement are everyday expectations. Accountability is no longer a dirty word, but is instead becoming a reality. While there is still considerable resistance to this new culture, particularly among some of the older members of the system, many others seem to be embracing it enthusiastically.

SUMMARY OF MBO STRATEGY, STRENGTHS AND LIMITATIONS

STRENGTHS

- MBO is perhaps the single most effective tool for fostering planning, accountability, coordination, and the use of data rapidly upon a large system in a straightforward, integrated, and logical manner. Regardless of how much or quickly a system is changing, this type of management process is relevant for the process can simply be applied to meet the new or shifting needs.

- MBO can be effective in forcing educators to become managers. Having to engage in the MBO process requires principals and superintendents to analyze data about the schools, explicitly plan for their improvement, focus and coordinate objectives, assign responsibilities and evaluate progress.

- MBO can be introduced quickly and inexpensively into a large system provided there is absolute top management support. While support or readiness lower down the system is certainly helpful, it is not absolutely necessary. It is possible to get at least compliance from almost all administrators in a system in a virtually short time. While it is certainly desirable to get beyond compliance, in the short run, in a very troubled system, complience may not be a bad start.

- Used with a longitudinal data base, MBO can contribute significantly to bottom line improvements in system performance over time. The longitudunal data base enables each school to compete against itself, taking into account its uniqueness and history.

- Used properly, MBO can foster participatory renewal in a school. MBO can serve as a catalyst or methodology for engaging members of the school community in systematic, and integrated problem solving. It can also be used to promote team building and the effective use of resources.

- There is ample room in an MBO system to include and encourage personal development as well as organization improvement. One objective can simply be related to personal growth.

- MBO is virtually invulnerable to serious attack. It may very well foster a great deal of apprehension, griping and grumbling about paperwork, accountability etc. Nevertheless, it seems almost indisputable that there be some direct attention given by administrators to analyzing data, planning, accountability and evaluation in some systematic and formal manner. Once you put these elements together you have some type of MBO system. It is so basic to sound management, especially for short term improvements, that the concept is virtually unattackable, whether it is being used on the level of an entire school or in a classroom.

WEAKNESSES

- A key ingredient in an MBO system is accountability. School administrators, with strong unions, have virtually been immune to accountability, and thus don't react too enthusiastically to it. Regardless of how well MBO is implemented and what rational is offered, there will be considerable resistance from many administrators to the increased accountability. This resistance may be expressed in the form of minimal compliance with the system, rather than utilizing its potential for real planning and coordination.

- Introducing MBO successfully into a system is difficult. The most important part of an MBO system is the processes it can set in motion. Unless implemented correctly, these can be ignored, misused or forgotten. It takes considerable time, energy, skill and commitment to utilize MBO correctly. If there is resistance to either the system per say or to the way it is introduced, there is a good liklihood that many of the processes will be disregarded.

- Introducing the system properly, with considerable attention devoted to building acceptance and support for the system among users, is a time consuming task. A critical judgment must be made in intervening in a system with MBO as to how much time and energy one is willing to invest in building support for it rather than using a quicker top down mandatory approach. Finding the right balance in this equation is difficult since an attempt to build support may be perceived as weakness on the part of top management. Such a perception can seriously jeopardize the effort.

- MBO requires time, energy, and discipline. Behavioral objectives are a key component in any MBO system. People need to become confortable working with behavioral objectives to maximally utilize the process. This is not often done without some period of frustration. In any case, MBO will generate more paperwork and require planning time and energy.

- While MBO can be implemented rather quickly into a large system by top management, its success is heavily dependent upon top management's continued commitment in time, energy, and attention. The natural resistance to MBO by many administrators can result in a great deal of testing, game playing and other forms of subtle resistance by this group. The success of an MBO system is thus largely dependent upon how well top level management can handle the resistance. It is an absolute necessity that top management demonstrate a continued commitment to the system through its collective and individual interactions with administrators if MBO is to become a reality. It is in the individual negotiating sessions between administrators and top management that conversion to the MBO process really takes place. This requires considerable endurance on the part of top management.

- MBO by its very nature can have a negative impact upon a system. It can restrict the actions of individuals, encourage individuals to push safe "achieveable objectives, reduce teamwork between managers because of the stress on measurement, encourage short-sighted planning, increase paperwork and red tape, and inhibit rather than encourage participation (if done top-down).[11] The more quickly and poorly implemented, the greater the likelihood of one or more of the above impacts on the system. Moreover, the avoidance of such negative impacts on the system is largely dependent on the readiness of the system for an MBO program.[12] While this certainly makes sense conceptually, as a practical matter it is highly problematic. Those systems which are the most in need of MBO, these most out of control, are the very ones with the least amount of readiness. This can pose a number of serious problems in terms of successful implementation. It may very well be the case that in these situations, regardless of how carefully MBO is implemented, general compliance is the best that one can expect in the short term. With continued top level management support and action it may be possible to move beyond compliance to more serious commitment. However, to try to develop sufficiant readiness in a highly troubled school system for MBO might very well be a waste of time.

- Accountability is a major component of an MBO system. It is extremely difficult to encourage the new behaviors associated with an effective MBO process without the ability to reward such behavior monetarily. School systems, by their very nature, offer little if no opportunities for use of this powerful incentive. Thus, accountability and new behavior may be encouraged with only part of the reward-punishment continuum available for support and reinforcement. While this does not make the task impossible, it certainly makes it more difficult. Other, non monetary rewards need to be found and used to support and symbolize superior performance.

- The most serious weakness of MBO as a mechanism for radical, large scale system change is its incremental nature. An important component of the MBO process is that objectives be set and owned by those who will be responsible for their implementation. People who have spent considerable time in a system tend to be heavily socalized by it. Their expectations of what can or needs to be done is largely weighted by the past. When asked to make plans, the objectives they set often tend to be merely an extension of last year's work. Even when confronted with data about system performance, there is often a strong feeling that this is about the best the system can do. Thus MBO is not particularly effective is extending expectations, changing attitudes or providing vision to a system. People often tend to set goals and objectives within the framework of their existing expectations of performance in the system. While these may be challenged and pushed by the MBO process, it must usually be done at a rather conservative, incremental pace.

MBO's primary strength is as a management tool. It can quickly install sound basic management behaviors such as analyzing data, planning/problem sovling, accountability and evaluation into a system. Implemented properly, it can help focus and isolate action toward bottom line system improvement. It is certainly basic to sound management, so much so that it is hard to imagine trying to improve or even maintain a school system without it. However, by itself, it is not particularly well suited to creating new expectations about what can be done. It is too incremental in nature for this, allowing peoiple to practice it within their existing expectation frameworks. Centainly top management can continue to use data to challenge existing expectations about performance, but this is a long, slow process which usually sparks a great deal of defensiveness, for most people seem fairly determined to justify their existing frameworks.

While the MBO process was playing an important role in gradual school improvement and in setting a much needed tone of accountability, the weakness cited above were apparent. Something else was needed to jar the system in terms of expectations. The overall data on performance was still very poor. With this need in mind, the Chancellor's Office, in conjunction with the High School Division, designed a third change strategy, one which they hoped would have this type of impact.

THE THIRD STRATEGY - FORCING AN ISSUE

CONDITION OF THE SYSTEM

With the MBO system, the new focus on accountability, and changes in a number of key positions, the High School Division, in 1979, was certainly in a state of change. As in most major change efforts, this one was causing considerable stress, frustration, and anxiety. While the Chancellor and his staff were clearly supportive of the actions taken to date, they too were restless. They were not satisfied with this longitudinal, incremental approach to improvement. They clearly felt that more was needed, something which would shake and challenge what they viewed as acquiesence and poor, limited expectations and attitudes among too many of the professionals. While the MBO system could be used to gradually attack this willingness to settle for poor performance, by itself it was not dramatic or fast enough, not sufficient. Thus, the condition of the system was changing again, for the dissatisfaction of the Chancellor's Office was clearly being felt by the senior level management of the High School Division. Rather than getting defensive and pointing to all he was doing, Nathan Quinones and his staff worked in conjunction with the Chancellor's Office to devise a new intervention, one which might have the desired impact.

UNDERLYING ASSUMPTIONS (THEORETICAL FRAMEWORK)

The requirements for the new change were simple and straightforward. The intervention simply had to demonstrate to the system that the prevailing expectations and attitudes were no longer acceptable. It was quickly recognized that delivering a major message like this, rapidly, to such a large system, would require a behavioral demonstration. Words, slogans, or exposed philosophies, in and of themselves would not be sufficient, for they could too easily be ignored. Such an intervention could not be voluntary, nor wait for people to get ready, for there needed to be a sense of urgency and seriousness. Finally, learning from the experience with the MBO system, the intervention itself needed to be something invulnerable to attack.

In attempting to integrate these characteristics, a change strategy emerged, which for want of a better name was called "pushing an issue". Was there a single issue, invulnerable to attack, which could be "pushed" upon the system to force attention and thus clearly deliver this new message. Or, could such an issue be created, positioned, or used in this manner? Early in the 1979 school year, the Chancellor's Office and the High School Division picked their issue, dropouts.

THE INTERVENTION

In October, 1979, the High School Division, in conjunction with the Chancellors Office, issued the Dropout Report. It immediately appeared on the front page of the New York Times. What was so significant about the report was not only what it said, but who was saying it. For years critics of the board and various student, parent and community groups had been attacking the board about its high dropout rate. The typical response was one of defensive denial, arguments about the accuracy of the figures, and similar types of avoidance behavior. The dropout report shocked the system. It indicated that nearly fifty percent of those entering their freshman year didn't graduate. There was considerable discussion about the figures and whether or not they accounted adequately for children who moved, entered high school equivelency programs or other schools. Much more important however, was the fact that the High School Division had actually released the report.

Regardless of any questions about the accuracy of the numbers, there was no question about the severity of the situation. It was shocking and totally unacceptable. The High School Division was saying this itself. It was clear that the public education system was not educating or even holding a very sizeable number of its students.

What was fascinating about the report was the change strategy it represented. In a single stroke, the Chancellor's Office and High School Divisions jared the system, openly and publicly. They joined sides with many groups who had traditionally been perceived as antagonists in demanding massive changes in the system. Most importantly, however, they knew that since they had released the report themselves, they would now be obligated to do something about the situation. This obligation to do something, which would now come from the public as well as themselves, was just the push they believed the system needed.

The strategy worked just as planned. Within a few weeks a Board Wide Drop Out Task Force, consisting of representatives from across the Board of Education plus parents, community groups and the union, was established by the Chancellor's Office. This group was charged with developing recommendations for attacking the problem from both a retrieval and preventative standpoint. Many groups, who had traditionally been viewed by board professionals as adversaries, were now working hand in hand with the board on this jointly recognized problem.

The largest impact of the dropout report fell squarely on the High School Division as planned. The division was asked to develop an immediate response to this unacceptable situation in addition to longer term preventative measures. While this put a great deal of pressure on the division, it clearly signaled that business as usual was no longer possible. The previous philosophy of educating those students who showed up at school was no longer adequate.

The High School Division in responding to this pressure, in turn adopted a strategy which demonstrated its own concurrance with this message. Within a few months, five dropout centers were established in four boroughs in conjunction with a huge media campaign to serve as outreach centers to young adults who had left school. Most importantly, budget for their staffs and operations was taken out of the existing funds for the regular schools. The division was now not only saying that it had a responsibility to educate all the children, but was taking money away from the regular schools to do this.

Moreover, the Division released plans which indicated that money would follow students, rather than students being forced to attend particular schools. This was a radical and frightening statement for the traditional professionals. To back up this statement with a pilot, funds were given to a community group as a demonstration project. Thus the division's immediate and visible response to the dropout report was much more than an effort to reach out to dropouts. It was a carefully designed and delivered message to the system that all the children were important, and that those schools which could not retain their students might well be faced with the possibility of losing staff.

In order to reinforce this message, the High School Division went one step further. Recognizing that retrieving some of the thousands of students that were leaving each year was an up hill and losing battle, a prevention policy was established. A memorandum was issued requiring each of the 110 high schools to develop a dropout prevention program. Descriptions of prototype programs were distributed to all principals and a number of schools were given additional resources to pilot various model programs. Superintendents were strongly encouraged to carefully monitor complience with this memo and to devote time and attention in their monthly meetings with principals to this issue.

This type of top down, direct mandating of programs for schools was unusual for the High School Division. However, so much pressure and public support had been created for doing something about dropouts by the report, that there was no significant resistance from principals. Overnight, the High School Division was changing the very mission of the schools, from serving only some of the children to all of the children.

The use of this strategy was not limited to the actions cited above. Rather, the issue was "pushed" or "forced" to provide support for other changes deemed necessary by the Chancellor's Office and the top management of the High School Division. The dropout issue was used to provide impetus to redesigning high school admissions, a complex issue which had been lying dormant for years. It was clear that students who were denied entrance to schools of their first choice were more likely to drop out. Thus the link, extension or push for this by the dropout issue. In a similar vein support was provided for many other changes within the division, which like the admissions issue had been long recognized as problems, but where progress in terms of change was either extremely slow or non existent. Among these other issues which the dropout strategy helped "push" were: the creation of a student data system to track students anywhere in the system; more vocational education programs; more attention to the needs of pregnant women; and more attention to quickly interventing in those high schools regarded as the weakest in the system (either improve them with new leadership, more resources, or close them). Finally, in a similar manner, the issue was used to provide impetus to other fundamental board wide changes that extended beyond the High School Division such as the Chancellor's new, more stringent promotion policies and standards.

During the year following the release of the dropout report, this issue was thus used to push a number of major changes in the school system, particularly within the High School Division. These changes, taken together, went beyond extending services to dropouts. Equally important was the message they were delivering to the division. It was no longer acceptable to provide services to only some of the children. Pushing this issue was an attempt to radically change the very mission or culture of the High School Division, in addition to better servicing a neglected population.

RESULTS

As indicated above, the results of this strategy were twofold, more attention to a major neglected population, and a redefinition of the purpose of the schools. Equally important to the outcomes, was the speed with which they were achieved, during the year following the release of the report. The change in prupose of the high schools also established the basis for a new coalition between the Division and many community and parent groups whose relationship to date had been much more antagonistic. The major impact of the intervention was not so much the programs that were established, but the change in readiness within the division for the types of radical changes in the schools that were necessary if the mission of the schools was indeed to serve all of the children. It was this new readiness withing the culture, the new expectations which now became the norm, that set the stage for more changes. Many of these have been indicated above. Some other examples of the types of changes which became easier to achieve because of the new expectations were:

- Reassigning a principal from one school to another.
- Closing two high schools with a history of poor performance.
- Requiring teachers to have behavioral written lesson plans.
- Forcing the early retirement of a number of weak principals.

SUMMARY OF "PUSHING AN ISSUE" STRATEGY, STRENGTHS AND LIMITATIONS

STRENGTHS

- To use Kurt Levins' terms, this strategy is able to quickly, "unfreeze" a huge and very frigid system, creating not only a readiness, but almost an expectation of change.[13] Such a new sense of readiness may add significant impetus to a number of other stagnant changes needed in a system. Within such a new climate, a number of actions are possible which previously may have been almost unthinkable.

- Such actions, initiated as part of this strategy, can deliver a message to a system, forcing a restatement of its basic mission.

- This strategy enables a system to create a great deal of public pressure for significant change, pressure which it can utilize for movement.

- A new coalition with groups which have historically been viewed by system professionals as adversorial is possible around the use of such an issue.

- New programs and services can be quickly developed and implemented by such a strategy.

- This strategy is extremely effective in demonstrating the different philosophy of a new administration to those within and outside of a system.

- A tremendous amount of change may occur over a very short period of time using such a strategy.

- According to the nature of the issue selected, and the public exposure it receives, there may be very little overt resistance to the changes that follow.

- Since this strategy can select which issue to "push", it can increase the adaptability of the system. It can be used to either initiate change (as in the New York City High School case) or respond to new demands being made upon a system.

LIMITATIONS

- The problem with any intervention strategy which is so heavily dependent rapidly "unfreezing" a system is how much change remains after the refreezing. With such a quick and intense shock to the system, there is little time or opportunity for people within the system to develop real ownership for the new philosophy or mission. Thus the issue becomes what happens when the pressure lightens up or the push is lifted? Sustaining the changes will continue to be an issue since this type of intervention relies heavily on speed and, unlike an MBO process, does not take time to develop systems or procedures for operating which can become institutionalized. Thus, after the initial impact, one can expect some slippage in results unless some mechanism is developed to sustain them.
- Any change in a system causes stress. A change of this magnitude, which challenges the very foundation of a system, and at this speed, causes tremendous stress. While a certain amount of stress or pressure upon a stagnant system is desirable and necessary, too much stress can be dysfunctional to both the system and its people. In the rush to focus so much attention on an issue, other important things may be left to slip. Such slippage in other parts of the system can affect performance due to the interrelated nature of system components.

Notwithstanding these limitations, "pushing an issue" can be an extremely powerful strategy for unfreezing a stagnant system. However, in order to insure institutionalization of changes, other more systematic interventions must be made in conjunction with it. The other alternative is to incorporate changes during the unfreezing stage, which by their very nature, will survive in the system, such as placing particular people in key positions.

SUMMARY OF THE NEW YORK CITY HIGH SCHOOL EXPERIENCE

Initiated by new top level leadership, the New York City High School System has undergone significant changes in mission, organization, role, culture and student performance over the last four years. Three major and contrasting strategies for systematic school system change have been used in this effort: Voluntary School Renewal, mandated Data Based Management By Objectives, and the identification and use of an issue to force change. These efforts were not conceived of as a total plan, but rather evolved sequentally as a reaction to the limitations of each effort, as well as to changes in the system.

These have been presented so that other school systems struggling with the process of change may benefit from this experience. Each major change strategy had significant strengths and limitations. Renewal is a voluntary process which enables those in the schools to begin to work systematically at solving their own problems. As a voluntary process it develops high ownership by those involved and produces the satisfaction and growth which come from people working together to solve problems. However, as a voluntary process, those who need it most often choose not to participate, and the problems selected for improvement are often only symptoms. Thus, Renewal rarely produces deep seated or radical changes in large complex systems.

MBO is on the opposite end of the continuum from Renewal. It is mandated, data based, and can be institutionalized as a management process in all parts of a school (or system) includning the classroom. However, MBO cannot be divorced from accountability and as such generates significant resistance. Moreover, although data based, it is often incremental in nature, limited by modest expectations which came from socialization into a system.

Using an issue to force change is a powerful, quick and dramatic way to unfreeze a system. During this initial period of time it can create a great deal of readiness for significant changes. However, it is not a system or procedure such as MBO which can be institutionalized in the system, but rather a jolt which loosens it up. It is during this unfrozen period that major changes can be forced into the system. However, once the initial period of shock is over, the system will refreeze and it is then up to the changes forced in during this period to sustain themselves.

By being clear about the limitations inherent in a strategy, one can plan to compensate a least somewhat for these limitations particularly during implementation. For example, one mistake in the implementation of MBO in the New York City School System was to push forward despite the resistance of principals, rather than slowing down and trying harder to develop some ownership with them. This option might have been more carefully considered, knowing beforehand that there would be such resistance. Likewise, in "pushing an issue", knowing that there is only an initial period of grace, a criteria for selecting interventions during this period might be their ability to sustain themselves once the pressure dies down. Putting new people into key positions is one such example of anticipating limitations and compensating for them with this particular strategy. Anticipating limitations for each strategy and planning carefully to compensate for them may be more effective in the long run than spending more energy simply pushing an intervention along.

The move from the use of one strategy to the other in the New York City High Schools was partly a reaction to their limitations. However, equally important, in each case, was an attempt to cope with new demands, new demands created by changes in the system. The move from renewal to MBO was an attempt to deal with a change in the system, new top level leadership, which was creating a new demand, accountability. Likewise, the decision to create and push the dropout issue was a response to a new demand upon the system, a demand by the Chancellor's office to challenge the prevailing attitudes and expectations. Over a short period of time, new leadership created new demands upon the system. These demands changed the nature of the needs of the system, and it was these newly highlighted needs which also influenced the choice of interventions. Thus, the system was not stable with a given set of needs, but constantly changing with new needs emerging as paramount.

This type of changing system is characteristic of many organizations particularly schools. Intervening successfully in a constantly shifting system is different from intervening in a more stable one. It is a critical issue in designing models for planned change in schools and other highly open systems, one which warrants further attention and study. It is hoped that the following discussion of this issue provides some basis for such an examination.

TOWARD A SYSTEM DRIVEN MODEL OF CHANGE

Systems theory has been helpful in developing the commonly held notion that planned change is a complex and long term process, especially in large systems. The complexity is attributed to the interdependence of the many subsystems and the unanticipated/unintended reactions among them in response to an intervention in any single subsystem. The long time frame is seen as necessary for coping with the natural resistance of the system to change as well as the additional stress which any change places upon a system and its members.[4] Since most systems are open to input, pressures, or influences from the environment, systems are constantly changing. This constant change is further complicated by the fact that the openess of a system to the environment is not a one way process of influence. In addition to reacting to external forces, organizations also assume a proactive stance by attempting to shape the environments in which they operate.[15] Thus the ongoing change in systems (organizations) can be both internally or externally driven at any point in time.

Systems differ substantially in their degree of openess.[16] The more open a system, the more likely it is to be externally driven and changing at an accelerated pace. Schools and school systems are extremely open systems, being highly dependent on and vulnerable to their environments.[17] One has to only look at the tremendous effects on schools of external forces such as budget cuts, changes in special education laws, declining enrollments, the rise of the moral majority, to see how open they are. Thus, while the physical boundaries of schools seem to remain fairly stable, the interaction of numerous externally driven forces with internally driven forces, such as new and constantly shifting leadership, keep schools (school systems) in a constant state of significant change.

The most complicating factor about this constant state of change in schools is its unpredictability. The more open a system the more vulnerable it is to vague and less quantifiable forces, such as change in cultural, political and social mores. While the impact of the decline in enrollment is a factor which is known and therefore predictable, such things as change in political climate, which equally effort schools, are much harder to predict and evaluate. For example, both the flight of Sputnik and the Vietnam War radically changed the nature of school for children of those eras. Thus schools, (school systems) as extremely open systems, are not only in a constant state of change, but are especially vulnerable to a wide range of constantly shifting externally and internally driven forces.

What is the implication of schools as constantly and unpredictably changing systems for planned change efforts? Trouble! Two problems become immediately apparent. The more simple concerns the interventions themselves. What happens to a long range intervention in a school system if some of the resources or supports necessary for its implementation disappear? The second is a more fundamental problem. Models of intervention are chosen to produce certain outcomes in relation to diagnosed needs. What happens to a long range intervention if somewhere during its implementation the desired outputs change? In both of these cases, the intervention or planned change effort is likely to have less impact or eventually die.

Most change models are dynamic with feedback loops for minor adjustments.[18] However, they are based on the assumption that they are changing or driving the system. Few models for planned change known to the author are built upon the equally likely premise that the intervention will be driven by a constantly changing system, often in opposite or opposing directions.

Most models for planned change (in schools or other organizations) rely on a dignosis of system needs for the appropriate choice of an intervention. The progress of the intervention is then measured against pre-established objectives, objectives which were appropriate for the system at the time of diagnosis. While this seems perfectly logical, it leaves out the changes in the system over time. The intervention often needs to be evaluated and modified against new desired outputs which reflect the needs of a changed system. In these cases, the base line, that is the system, is constantly moving, requiring new outputs, or requiring the same outputs, but changing the configuration of forces which support the intervention. Thus a primary characteristic in evaluating the effectiveness of a change model is how well it copes with other significant changes in the system it is attempting to influence.

A more complete model of change is needed for intervention in extremely open systems, of which schools are a primary example. Such a model must take explicity into account the changing nature of the open system with which the intervention will interact. It must juxtapose a dynamic change model with a dynamic system. It must do so with the recognition that these two changing and interacting models are bound to overlap if the change effort is major enough to require a relatively long time period. Such a model would therefore not rely on one strategy, but upon a constantly evolving series of strategies to keep pace with changes in the system. It might thus be characterized as a system-driven model of change. It would recognize that major interactions may decrease in impact and importance, not because they are being poorly implemented, but because the context, the system in which they are operating is changing.

A diagnosis of the current state of affairs is not sufficient for planning interventions in such a system. Some attempt must be explicitly made to project and plan for future changes in the system, not due to the intervention, but to other demands acting upon it. Moreover, this type of future oriented issue diagnosis must occur continually throughout the change process so that interventions and strategies can be modified accordingly.

A system-driven model of change will explicitly address two questions before selecting a change strategy:

- Support - What factors (components) in the system are currently operating that one can count on to support the intervention? What is likely to happen to them over the next two, three, four years?

  This is essential because in order to institutionalize a change in a system, some type of support mechanisms are necessary. Just because such supports exist now does not mean that they will be present in the future. For example, in New York City, the decline in school resources so affected morale in the schools that renewal, based on volunteerism, became almost impossible.

- Output - What outputs are intended? What possible changes in desired outputs can be expected over the next few years? This too is a crucial issue. It is very possible that the needs of open systems can change radically enough over a short period of time so as to make even the desired outputs of an intervention less important. For example, incremental improvement as provided by the MBO system in New York City, was not sufficient to challenge basic expectations held by most professionals about the purpose of the schools. When this became a desired need, MBO was no longer sufficient by itself.

  Such an analysis can help those designing change strategies or interventions be better prepared for system changes. This preparation can result in a considerable saving of time, energy and money, in addition to increasing effectiveness.

This change models for interventions in highly open systems need to be more interactive, rather than linear in nature, explicitly building on changes in the demands and needs of the system. One approach to making change models more interactive with changes in the system itself is the use of environmental scanning techniques. These techniques simply try to determine what current forces are acting upon a system, how strong they are, and what is likely to happen to them at points out in the future, say two, three, or five years. They may be data based, or more subjective. They may also focus on issues which may become demands upon a system. Regardless of how sophisticated the scanning, some attempt to utilize scanning in the diagnostic stage of a change for highly open systems seems sensible. If such a process is added as a regular feature at the normal evaluation and feedback points in almost any standard change model, it will tend to make the process more interactive which changes in the system. Without explicitly addressing such changes in the system, along with the progress of the change strategy, interventions in highly open systems are likely so be less effective.

The author hopes that the change experiences in the New York City High Schools reported here provide insights for other school systems, both large and small, which are struggling with the process of planned change. In particular, the New York City experience highlights the need to pay more attention to the problems of intervening in a rapidly changing system. The author believes that the need to develop system driven models of change, which are more sensitive to predicting and utilizing changes in a system is an important issue for intervention in any highly open system. If this paper serves to stimulate further such study, its purpose will have been achieved.

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